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Lyndon B. Johnson Space Center

**ISS Payload Label Approval Process**

Habitability & Human Factors (SF3)

Rich Ellenberger (281-483-5238)

4/22/2003

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- **Charter:** The ISS Payload Label Approval Team (IPLAT) is responsible for verifying that ISS payload labels meet the requirements in SSP 57000 Appendix C. The goal is the standardization of payload labels to facilitate the crew's understanding, thereby increasing the amount of time spent on science.
- **Scope Of Work (Which Labels IPLAT Must Review).** IPLAT must review *all labels on payload hardware/equipment that the crew will interface with (nominal operations, planned maintenance, contingency)*.
  - This **includes**, but is not limited to:
    - Rack/subrack front panel type hardware
    - All experiment equipment, loose or mounted other than in rack/subrack formation
    - All equipment cables, fluid lines, hoses, etc.
    - All equipment controls, switches, ports, LEDs, containers, etc
  - This **does not include**:
    - Items which the crew will not interface with (e.g. internal circuit boards, etc.)
    - Labels contained within software displays. These are handled by the Payload Display Review Panel (PDRP).
    - Procedures, Cue Cards, etc. These are handles by the Payload Operations Data File (PODF).

Habitability & Environmental Factors Office



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- **Early Coordination**

- IPLAT provides payload developer with information about the label approval process and answers questions regarding requirements.
- Payload developer provides IPLAT with basic information about the payload.

- **Initial Label Evaluations (see diagram)**

- Payload developer requests an initial label evaluation at the I-16 timeframe, and provides IPLAT with *pre-released* engineering drawings. Note: IPLAT suggests developers request the initial label evaluation before engineering drawings are officially released, because the cost to make final changes after release will be greater.
- IPLAT performs the initial label evaluation on the *pre-released* drawings.
- Developer adjusts label designs per IPLAT's recommendations, or develops additional or alternate solutions to requirements violations.
- The bulk of label design corrections should be done at this stage, as the cost of changes should be minimal.

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- **Final Acceptance/Disposition of Payload Labels (see diagram)**

- Once the payload's design matures to the point where the developer has released engineering drawings and desires final acceptance of the label designs, the developer will contact IPLAT to request the final evaluation.
- Developer supplies IPLAT with formal released engineering drawings.
- IPLAT reviews released drawings to ensure IPLAT's previous recommendations were implemented and checks any additional changes made to the labels. The developer should inform IPLAT of such changes prior to the review. The Final Disposition Form (JSC Form 732) is the formal record of whether or not the labels are approved.
- If the released drawings contain no label requirements violations, Form 732 will be returned listing the drawings that were approved.
- If the released drawings contain label requirements violations, Form 732 will be returned citing the drawings that are disapproved.
- It is possible for some drawings to be approved, and some disapproved, on the same Form 732.

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- **Final Acceptance/Disposition of Payload Labels (continued)**
  - If there is a good reason the letter of a requirement can't be met, IPLAT will make a determination as to whether or not the violation is serious enough to warrant disapproval. The developer and IPLAT will try to work toward a solution that is acceptable to both parties.
  - If there are any outstanding disagreements between IPLAT and the developer, the developer can appeal to the ISS Payload Office (OZ3) PIRN Technical Review (PTR) board for disposition.



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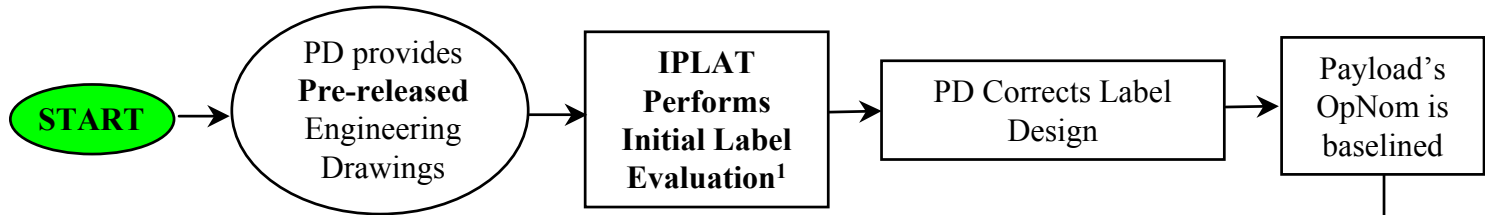
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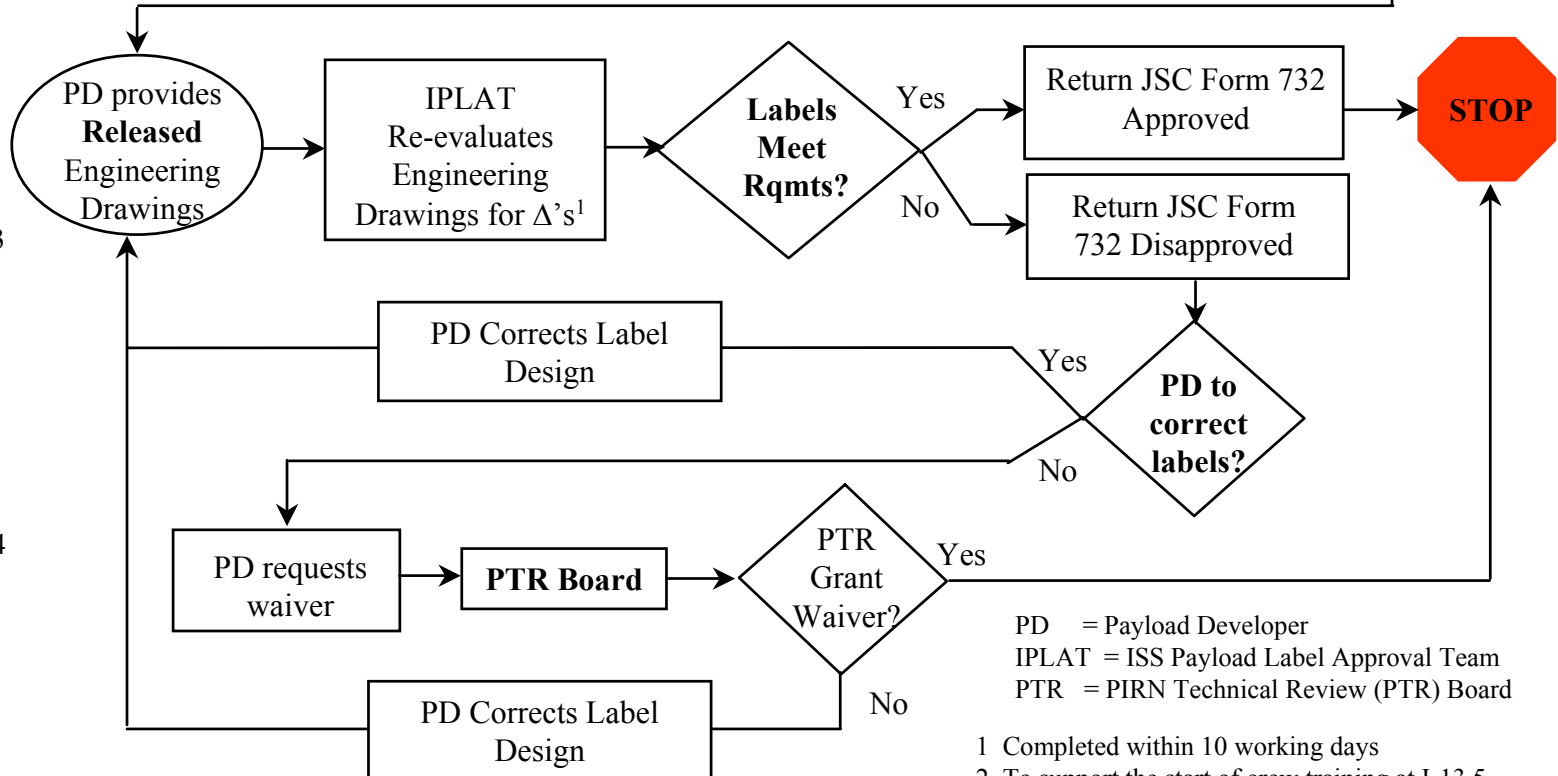
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1st Stage:  
Initial  
Review<sup>2</sup>  
(I-16)



2nd Stage:  
Final  
Acceptance  
Review  
(before I-7)<sup>3</sup>



3rd Stage:  
PTR Board<sup>4</sup>

PD = Payload Developer  
IPLAT = ISS Payload Label Approval Team  
PTR = PIRN Technical Review (PTR) Board

- 1 Completed within 10 working days
- 2 To support the start of crew training at I-13.5.
- 3 Supports baselining of procedures at I-7.
- 4 Only if IPLAT and PD disagree on resolution



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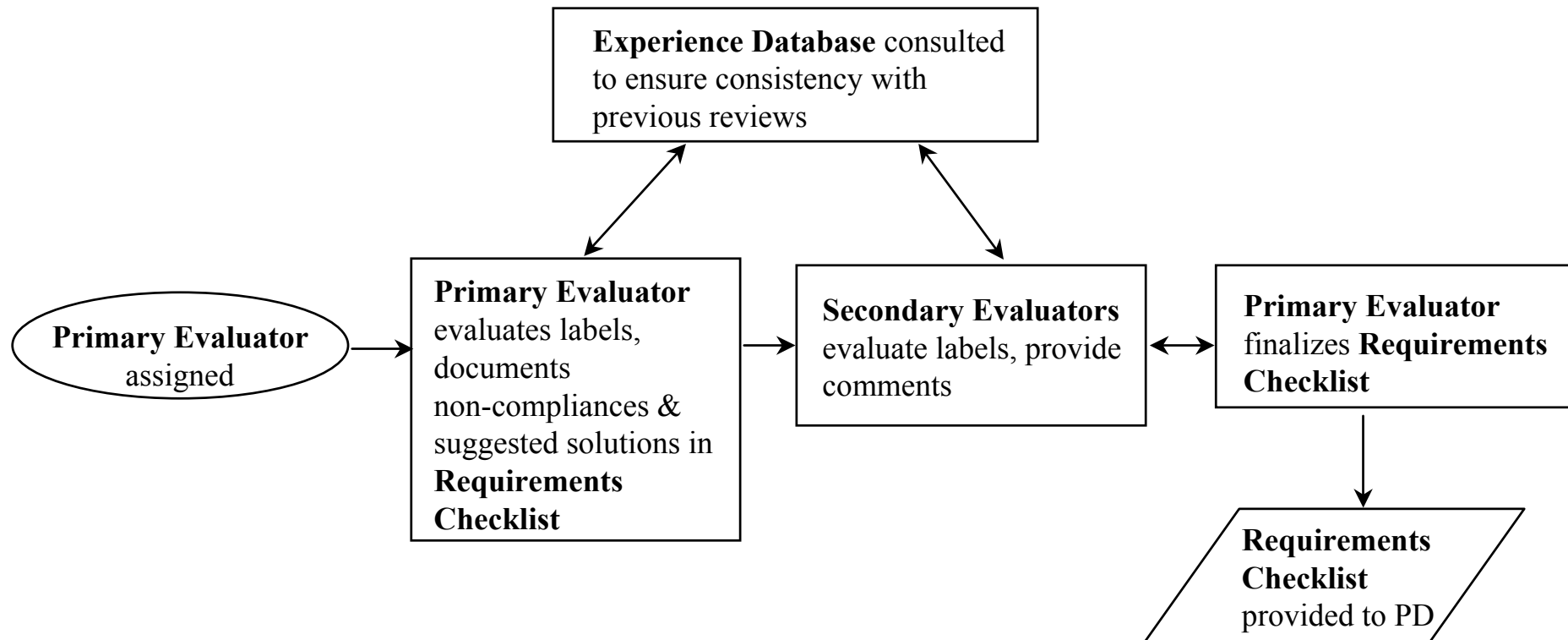
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### ISS PAYLOAD LABEL APPROVAL PROCESS FLOW (Continued) ( IPLAT Internal Process)



Note: This process is to take up to 10 working days, maximum.



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- **Payload Developer Vs. IPLAT Responsibilities**

- Payload Developer Responsibilities: It is the payload developer's responsibility to ensure that it provides IPLAT with all of the drawings containing labels that the crew will interface with. The 10 day approval cycle begins when all of the drawings for a system/subsystem are received. The developer is responsible for collecting all IPLAT Final Disposition Forms to attach to a Verification Data Sheet (VDS) as proof that SSP 57000 Section 4.3.12.7 has been satisfied. This is the requirement that specifies that IPLAT shall verify the payload's labels. The developer is also responsible for notifying IPLAT if label designs change, and for providing updated drawings to IPLAT to review.
- IPLAT responsibilities: IPLAT is responsible for reviewing drawings it receives against the SSP 57000 Appendix C labeling requirements, and for providing formal verification on such drawings. This is the only role IPLAT plays in formal verification. IPLAT will maintain a record of which drawings were reviewed and approved or disapproved (Final Disposition Forms). The developer can ask IPLAT if it received and reviewed certain drawings, to aid the developer in determining whether all drawings containing labels have been properly reviewed and approved.



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- **OpNom Plan**

- For U.S. ISS Payloads, Operations Nomenclature (OpNom) includes all acronyms and abbreviations, and text on IMS labels. The PD is responsible for coordinating their OpNom with the PODF. Contact Mercedes Galloway at 256-544-2333, [Mercedes.C.Galloway@msfc.nasa.gov](mailto:Mercedes.C.Galloway@msfc.nasa.gov)
- For International Partners (IPs), contact your ODCFB component control board representative for OpNom registration. If there are any questions, contact Lisa Payne at 281-483-8682, [lisa.p.paynel@jsc.nasa.gov](mailto:lisa.p.paynel@jsc.nasa.gov).
- Operations Nomenclature must be baselined final IPLAT approval.

- **IMS Plan**

- IPLAT will instruct payload developers to contact OC2 (Scott Stinson, 281-244-8056, [scott.c.stinson1@jsc.nasa.gov](mailto:scott.c.stinson1@jsc.nasa.gov)) directly for IMS label requests/questions. IPLAT is not responsible for IMS (assigning numbers, etc.). However, IPLAT will ensure that the IMS labels are placed in their proper locations, according to SSP 57000 Appendix C.



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- **Related Interfacing Organizations (for U.S. payloads only).**
  - Payload Operations Data File (PODF). The PODF is responsible for payload OpNom, procedures, and related materials (e.g. Cue Cards).
  - Payload Display Review Panel (PDRP). The PDRP is responsible for approving all payload software displays. IPLAT will work with the PDRP to discuss any issues where hardware labels (IPLAT jurisdiction) and software displays (PDRP jurisdiction) interface.